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James R. McClellan

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EXAMINER

CHUONG, TRUC T

ART UNIT

PAPER NUMBER

2179

DATE MAILED: 06/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/804,309

Applicant(s)

MCCLELLAN, JAMES R.

Examiner

Truc T. Chuong

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 March 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

This communication is responsive to amendment, filed 03/06/06.

Claims 1-26 are pending in this application. In the communication, claims 1, 7, 10, 14, and 20-26 are independent claims. This action is made non-final.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The term "enhanced tree-style" in claim 1 is a relative term which renders the claim indefinite. The term "enhanced tree-style" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. There are not enough details to describe how to "enhance" the tree-style graphical representation in the Specification (Spec., pages 5, 7, 15-16). For example, how data are passing/flowing from one vision machine to the others, and non-hierarchical data flow relationships among plurality of machine vision entities corresponding to figure 3A of the Specification. The similar problem can be found in other independent claims, and the dependent claims are also rejected under a similar deficiency.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-26 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Kodosky et al. (U.S. Patent No. 6,784,903 B2).

As to claim 1, Kodosky teaches method for generating an enhanced tree-style graphical representation of interrelationships among a plurality of machine vision entities for display as a graphical user interface on a screen of a visual display unit of a machine vision system, said method comprising:

acquiring a first specification that describes a plurality of hierarchical interrelationships among said plurality said of machine vision entities (the graphical program comprises a block of diagram which includes a plurality of interconnected nodes or icons; the graphic program includes a hierarchy of sub-programs or sub-diagrams, and the user can create or assemble the graphical program on the display, e.g., col. 5 lines 3-19, col. 21 lines 36-55, and figs. 6 & 8; and the nodes or icons clearly represent for machine visions, e.g., col. 7 lines 46-57, figs. 1A-B), the first specification being for constructing a tree-style graphical representation of the hierarchical interrelationships among said plurality of machine vision entities (e.g., col. 21 lines 36-55);

acquiring a second specification that describes a plurality of non-hierarchical data flow interrelationships among said plurality of entities (as mentioned above, the system of Kodosky is clearly capable of constructing and converting any of nodes or icons interrelationships into

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graphics by using the LabView graphical programming, e.g., col. 21 lines 35-50, and col. 57 lines 23-48; the non-hierarchical data flow interrelationships of Kodosky can be described, i.e., fig. 37 teaches that there is non-hierarchical relationship among Osetpoint, a/d read, and shift, which their data can be flowed/passed to different devices/objects to process, see the solid data flow lines of fig. 37), the second specification being for enhancing the tree-style graphical representation by adding non-hierarchical data flow interrelationships among the plurality of machine vision entities (the similar example of the non-hierarchical data flow interrelationship can also be found in figs. 33-35);

constructing said enhanced tree-style graphical representation simultaneously representing graphically both said set of hierarchical interrelationships and said plurality of non-hierarchical data flow interrelationships among said plurality of machine vision of entities (e.g., figs. 33-37); and

displaying said enhanced tree-style graphical representation to produce said graphical user interface on said screen of said visual display unit of said machine vision entities (e.g., figs. 33-37);

alternatively, if the system of Kodosky does not clearly teach displaying both hierarchical and non-hierarchical data flow interrelationships as claimed, Kodosky clearly suggest the capable of constructing and converting any of nodes or icons interrelationships into graphics by using the LabView graphical programming (e.g., col. 5 lines 45-65, and col. 21 lines 35-50); therefore, it is well known and would have been obvious to a person of ordinary skill in the art at the time of the invention to create the graphical hierarchical/non-hierarchical data flow

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interrelationships among nodes/icons/machine vision devices to improve visualization to ease the user/operator when working/viewing/tracking the devices.

As to dependent claim 2, Kodosky teaches the acquiring a first specification includes at least one of:

extracting said first specification from a digital file stored on a computer readable medium (computer 102 is used to control and storing instructions, graphs, etc., e.g., 12 lines 25-53, and figs. 1A-B); and

obtaining said first specification from an interactive graphical user interface (e.g., col. 21 lines 36-55, and figs. 6 & 8).

As to dependent claim 3, Kodosky teaches the acquiring a second specification includes at least on of:

extracting said second specification from a digital file stored on a computer-readable medium; and obtaining said second specification from an interactive graphical user interface (see claim 1 above, and using the LabView graphical programming, e.g., col. 21 lines 35-50, and col. 57 lines 23-48).

As to dependent claim 4, Kodosky teaches the constructing enhanced tree-style graphical representation further comprises:

forming an initial tree-style graphical representation that depicts said set of hierarchical interrelationships among said plurality of machine vision entities (e.g., col. 5 lines 3-19, col. 21 lines 36-55, and figs. 6 & 8; and the nodes or icons clearly represent for machine visions, e.g., col. 7 lines 46-57, figs. 1A-B); and

incorporating said plurality of non-hierarchical data flow interrelationships into said initial tree-style graphical representation, by depicting said plurality of non-hierarchical data flow interrelationships without altering said plurality of hierarchical interrelationships depicted in said initial tree-style graphical representation, to produce said enhanced tree-style graphical representation (note the rejection of claim 1 above).

As to dependent claim 5, Kodosky teaches the forming includes graphically depicting a hierarchical interrelationship between a parent entity and a child entity in such a manner that the child entity in said hierarchical interrelationship appears left-indented from where the parent entity in said hierarchical interrelationship appears (e.g., figs. 33-37).

As to dependent claim 6, Kodosky teaches the incorporating includes graphically displaying a data flow connection between two machine vision entities involved in any one of said plurality of non-hierarchical interrelationships data flow interrelationships proximate to where said two machine entities appear in said initial tree-style graphical representation (there is non-hierarchical relationship among Osetpoint, a/d read, and shift, which their data can be flowed/passed to different devices/objects to process, see the solid data flow lines of fig. 37, and the similar example of the non-hierarchical data flow interrelationship can also be found in figs. 33-35).

As to claim 7, Kodosky teaches a method for modifying an enhanced tree-style graphical representation of interrelationships among a plurality of machine vision entities for display as a modified graphical user interface on a screen of a visual display unit of a machine vision system, said method comprises at least one of:

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adding a new machine vision entity to the depiction of said enhanced tree-style graphical representation that depicts simultaneously hierarchical interrelationship among said machine vision entities, and non-hierarchical data flow interrelationships among said machine vision entities (adding a new node or VPort to the graph, e.g., col. 37 lines 1-25, and fig. 21, and note the rejection of claim 1 above); and

deleting a depicted machine vision entity from the depiction of said enhanced tree-style graphical representation that depicts simultaneously hierarchical interrelationships among said machine vision entities, and non-hierarchical data flow interrelationships among said machine vision entities.

As to dependent claim 8, Kodosky teaches said adding further comprises:

defining said new machine vision entity (adding a new node or VPort to the graph, e.g., col. 37 lines 1-25, and fig. 21);

specifying a position in said enhanced tree-style graphical representation where said new machine vision entity can be inserted (e.g., col. 37 lines 1-25, and fig. 21);

modifying said enhanced tree-style graphical representation to incorporate said new machine vision entity at said position (e.g., col. 37 lines 1-25, and fig. 21); and

displaying said enhanced tree-style graphical representation, modified by said modifying to produce said modified graphical user interface on said screen of said display unit of said machine vision entities (e.g., col. 37 lines 1-25, fig. 21, and note the rejection of claim 1).

As to dependent claim 9, Kodosky teaches said deleting further comprises:

selecting said depicted machine vision entity from said enhanced tree-style graphical representation (using the LabView graphical programming, e.g., col. 21 lines 35-50, and col. 57 lines 23-48);

identifying any hierarchical interrelationship and any non-hierarchical interrelationship, associated with said depicted machine vision entity (e.g., col. 21 lines 36-55);

modifying said enhanced tree-style graphical representation to incorporate the deletion of said depicted machine vision entity and the removal of said any hierarchical interrelationship and any non-hierarchical interrelationship, identified by said identifying (Kodosky does not clearly teach that the LabView graphical program can remove/delete the nodes/icons/machine visions; however, it is well known and to a person of ordinary skill in the art at the time of the invention to remove/delete any node/icon in a similar way of adding as rejected in claim 7 above to save room for higher priority devices); and

displaying said enhanced tree-style graphical representation, modified by said modifying to produce said modified graphical user interface on said screen of said display unit of said machine vision system (constructing and converting any of nodes or icons interrelationships into graphics by using the LabView graphical programming, e.g., col. 21 lines 35-50, and col. 57 lines 23-48).

As to claim 10, Kodosky teaches a method for modifying an enhanced tree-style graphical representation of interrelationships among a plurality of machine vision entities for display as a graphical user interface on a screen of a visual display unit of a machine vision system, said method comprises at least one of:

adding a new hierarchical interrelationship to the depiction of said enhanced tree-style graphical representation that depicts simultaneously hierarchical relationships, and non-hierarchical data flow interrelationships among a plurality of machine vision entities (adding a new node or VPort to the graph, e.g., col. 37 lines 1-25, and fig. 21, and note the rejection of claim 1 above);

deleting a depicted hierarchical interrelationship from the depiction of said enhanced tree-style graphical representation that depicts simultaneously hierarchical interrelationships, and non-hierarchical data flow interrelationships among a plurality of machine vision entities (see the rejection of claim 9 above); and

updating a depicted hierarchical interrelationship in the depiction of said enhanced tree-style graphical representation that depicts simultaneously hierarchical interrelationships and non-hierarchical data flow interrelationships among a plurality of machine vision entities (constructing and converting any of nodes or icons interrelationships into graphics by using the LabView graphical programming, e.g., col. 21 lines 35-50, and col. 57 lines 23-48).

As to dependent claim 11, it is the equivalent method claim 8 and rejected under a similar rationale.

As to dependent claims 12 and 13, they are the equivalent method claim 9 and rejected under a similar rationale.

As to claim 14, Kodosky teaches a method for modifying an enhanced tree-style graphical representation of interrelationships among a plurality of machine vision entities for display as a modified graphical user interface on a screen of a visual display unit of a machine vision system, said method comprises at least one of:

adding a new non-hierarchical data flow interrelationship to the depiction of said enhanced tree style graphical representation (adding a new node or VPort to the graph, e.g., col. 37 lines 1-25, and fig. 21, and note the rejection of claim 1 above);

deleting a depicted non-hierarchical data flow interrelationship from the depiction of said enhanced tree-style graphical representation (see the rejection of claim 9 above);

updating a depicted non-hierarchical data flow interrelationship in the depiction of said enhanced tree-style graphical representation (constructing and converting any of nodes or icons interrelationships into graphics by using the LabView graphical programming, e.g., col. 21 lines 35-50, and col. 57 lines 23-48).

As to dependent claims 15 and 16, they are the equivalent method claim 9 and rejected under a similar rationale.

As to dependent claim 17, Kodosky teaches the method wherein said updating further comprises:

selecting said depicted non-hierarchical data flow interrelationship from said enhanced tree style graphical representation (the system of Kodosky is clearly capable of constructing and converting any of nodes or icons interrelationships into graphics by using the LabView graphical programming, e.g., col. 21 lines 35-50, and col. 57 lines 23-48; the non-hierarchical data flow interrelationships of Kodosky can be described, i.e., fig. 37 teaches that there is non-hierarchical relationship among Osetpoint, a/d read, and shift, which their data can be flowed/passed to different devices/objects to process, see the solid data flow lines of fig. 37);

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revising the specification associated with said depicted non-hierarchical data flow interrelationship to produce a modified non-hierarchical data flow interrelationship (e.g., col. 21 lines 36-55, and figs. 6 & 8);

modifying said enhanced tree-style graphical representation to replace said depicted non-hierarchical data flow interrelationship by said modified non-hierarchical data flow interrelationship (constructing and converting any of nodes or icons interrelationships into graphics by using the LabView graphical programming, e.g., col. 21 lines 35-50, and col. 57 lines 23-48); and

displaying said enhanced tree-style graphical representation, modified by said modifying to produce said modified graphical user interface on said screen of said display unit of said machine vision system (e.g., col. 21 lines 35-50, and col. 57 lines 23-48).

As to dependent claim 18, it can be rejected under a similar rationale as claim 1.

As to dependent claim 19, it can be rejected under a similar rationale as claim 1.

As to claims 20-23, they are the equivalent method claims 1, 7, 10, and 14 respectively and are rejected under a similar rationale.

As to claims 24-26, they are the equivalent method claims 1, 2, and 13 respectively and are rejected under a similar rationale.

Response to Arguments

3. Applicant's arguments with respect to claims 1-26, filed 03/06/06, have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Kodosky et al. (U.S. Patent No. 6,219,628 B1) teach machine vision devices, hierarchical/non-hierarchical data flow interrelationships among devices, icons, nodes, and software and hardware functions of the devices (cols. 1-30 and figs. 1-19).

Limondin et al. (U.S. Patent No. 6,226,783 B1) teach machine vision, hierarchical relationships, and data passing/processing (cols. 1-10, and figs. 2 & 9).

Blowers et al. (U.S. Patent No. 6,298,474 B1) teach machine vision devices, and hierarchical/non-hierarchical data passing (cols. 1-13, and figs. 2-9).

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Truc T. Chuong whose telephone number is 571-272-4134. The examiner can normally be reached on M-Th and alternate Fridays 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Weilun Lo can be reached on (571) 272-4847. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Truc T. Chuong

06/10/06


WEILUN LO
SUPERVISORY PATENT EXAMINER